

Amendments to the Claims

Please amend Claim 1, cancel Claims 25, 38, and 40-41; and add new Claim 49, all as shown below. Applicant respectfully reserves the right to present and prosecute any originally presented, canceled or amended claims in a continuing or future application.

1. (Currently Amended) A computer-readable storage medium containing instructions stored thereon, which when read and executed by a plurality of computers cause the plurality of computers to perform steps comprising:

receiving, at an administrative server, an MBean definition file in XML a markup language format;

generating, at the administrative server, an MBean jar archive file from the MBean definition file, wherein the MBean jar archive file includes a tag for an MBean and a tag for each attribute, operation, and potential notification issued by the MBean;

sending the jar archive file from the administrative server to a managed server in a management domain, wherein the management domain is a collection of distributed servers that are managed as a unit;

using the jar archive file to instantiate the MBean upon the managed server, ~~wherein scope of the MBean is set to server-specific for the managed server, and wherein the administrative server does not have a copy of the MBean; and~~

determining a scope of the MBean, said scope specified in the MBean definition file or on a specific instance upon creation, wherein the scope of the MBean is set to be either server-specific for the managed server or shared in the management domain, wherein the managed server contains copies of the MBeans scoped server-specific to the managed server, and wherein the administration server contains copies of MBeans shared in the management domain; and

providing a custom management capability through the MBean over the management domain, wherein if the MBean is scoped to be server-specific to the managed server, applications and servers must access the specific managed server to read the MBean in order to invoke the custom management capability.

~~wherein scope of the MBean is a set of locations at which the MBean is available and the MBean is not available to servers located outside the MBean's scope.~~

2 - 17. (Canceled)

18. (Previously Presented) The computer-readable medium of claim 1, wherein the custom management capability tracks changes to MBeans throughout the management domain.
19. (Previously Presented) The computer-readable medium of claim 1, wherein each server node has a MBean server.
20. (Previously Presented) The computer-readable medium of claim 1, wherein the custom management capability provides an API for providing management services in the management domain.
21. (Previously Presented) The computer-readable medium of claim 1, wherein the custom management capability is customized by a user by adding schema attributes and extended persistence features.
22. (Previously Presented) The computer-readable medium of claim 1, wherein the custom management capability is packaged as a framework with multiple MBeans which a security provider can extend.
23. (Previously Presented) The computer-readable medium of claim 1, wherein a MBean is accessed through a type MBean stub.
24. (Previously Presented) The computer-readable medium of claim 23, wherein an MBean stub provides a reference to a java object which implements an interface specific to the MBean.
25. (Canceled)
26. (Previously Presented) The computer-readable medium of claim 1, wherein a factory model is provided for creating MBean instances.
27. (Previously Presented) The computer-readable medium of claim 1, wherein MBean delegates are derived from an existing MBean.

28. (Previously Presented) The computer-readable medium of claim 1, wherein MBeans that are declared to be persistent are automatically saved to a repository.

29. (Previously Presented) The computer-readable medium of claim 1, wherein each MBean is stored in a separate file and is shadowed for failsafe writes.

30. (Previously Presented) The computer-readable medium of claim 1, wherein the tag for each attribute includes name, package, persist policy, persist period, description, and display name.

31. (Previously Presented) The computer-readable medium of claim 1, wherein the operation definition tag includes a sub-tag instance for each argument of the operation.

32. (Previously Presented) The computer-readable medium of claim 31, wherein attributes for the sub-tag instance are name and type.

33. (Previously Presented) The computer-readable medium of claim 1, wherein a notification definition tag includes name, severity, and display name.

34. (Previously Presented) The computer-readable medium of claim 1, wherein a local MBean server handles read attribute requests and MBean creation and deletion requests for server specific MBeans.

35. (Previously Presented) The computer-readable medium of claim 34, wherein an MBean Server Proxy routes read access to an appropriate server and MBean instance within the appropriate server and routes write accesses to the corresponding MBean instance on the administration server.

36. (Canceled)

37. (Previously Presented) The computer-readable medium of claim 1, wherein changes to an MBean are propagated from an administration server to all servers within the scope of the MBean.

38. (Canceled)

39. (Previously Presented) The computer-readable medium of claim 1, wherein all MBeans residing on a managed server are stored in the managed server's local repository in addition to the administration server's repository.

40 – 41. (Canceled)

42. (Previously Presented) The computer-readable medium of claim 1, wherein the scope is stored in an MBean information structure.

43. (Previously Presented) The computer-readable medium of claim 1, wherein a request for a server specific MBean can be handled by any MBean server in the management domain.

44. (Previously Presented) The computer-readable medium of claim 1, wherein accessing a server specific MBean is performed through a logical canonical server corresponding to a managed server that the server specific MBean resides upon.

45. (Previously Presented) The computer-readable medium of claim 1, wherein when a request is received for an MBean not available on a MBean server, the MBean server calls a method that returns a list of MBeans in a management domain or a specific subset of the management domain.

46. (Previously Presented) The computer-readable medium of claim 45, wherein the MBean server uses user-provided information including a provided object name pattern to qualify a search of the list of MBeans in the management domain.

47. (Previously Presented) The computer-readable medium of claim 45, wherein an administration server contains a list of server specific MBeans in addition to shared MBeans.

48. (Previously Presented) The computer-readable medium of claim 1, wherein an administration server handles attribute writes and MBean creation and deletion requests for

sharable MBeans.

49. (New) A method for providing custom management capabilities across a management domain of distributed servers, said method comprising:

- receiving, at an administrative server, an MBean definition file in a markup language format;
- generating, at the administrative server, an MBean archive file from the MBean definition file, wherein the MBean archive file includes a tag for an MBean and a tag for each attribute, operation, and potential notification issued by the MBean;

- sending the archive file from the administrative server to a managed server in the management domain, wherein the management domain is a collection of distributed servers that are managed as a unit;

- using the archive file to instantiate the MBean upon the managed server;

- determining a scope of the MBean, said scope specified in the MBean definition file or on a specific instance upon creation, wherein the scope of the MBean is set to be either server-specific for the managed server or shared in the management domain, wherein the managed server contains copies of the MBeans scoped server-specific to the managed server, and wherein the administration server contains copies of MBeans shared in the management domain; and

- providing a custom management capability through the MBean over the management domain, wherein if the MBean is scoped to be server-specific to the managed server, applications and servers must access the specific managed server to read the MBean in order to invoke the custom management capability.